



PTO/SB/33 (07-05)

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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**Docket Number (Optional)  
2421-000030/US

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

Application Number  
10/726,638Filed  
December 4, 2003First Named Inventor  
Ja-Hum KU et al.

On \_\_\_\_\_

Art Unit  
2812Examiner  
Richard A. Booth

Signature \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☒ attorney or agent of record.  
Registration number 35,094.

☐ attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

*John A. Castellano*  
Signature

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Typed or printed name

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Telephone number

October 3, 2008  
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☒ \*Total of 1 forms are submitted.



PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/726,638                      Group Art Unit: 2812  
Filing Date: December 4, 2003              Examiner: Richard A. Booth  
Applicant: Ja-Hum KU et al.  
Title: NICKEL ALLOY SALICIDE TRANSISTOR  
STRUCTURE AND METHOD FOR  
MANUFACTURING SAME

Attorney Docket: 2421-000030/US

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October 3, 2008

**REASONS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Dear Sir:

In response to the "final" Office Action (hereinafter 'Action') mailed July 3, 2008, Appellants request that the Pre-Appeal Brief Review Board (hereinafter 'Board') review the pending rejections, concurrently with the filing of a Notice of Appeal.

Claims 1-34 are pending in the current application. Claims 1 and 15 are in independent form. No claim amendments are being filed in conjunction with this request.

**I. MATERIAL UNDER REVIEW**

Review is requested for the rejections of (i) claims 1-4, 7-9, 15-18, 26, 28-29 and 31-34 under 35 U.S.C. § 102(e) as being anticipated by U.S. Publication No. 2005/0176247 (Cabral Jr. et al., hereinafter "Cabral"), (ii) claim 30 under 35 U.S.C. § 103(a) as being unpatentable over Cabral, (iii) claims 5-6, 10-14, 19-20 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cabral Jr. et al. as applied to claims 1-4, 7-9, 15-18, 26, 28-29, and 31-34 above, and further in view of U.S. Patent No.

6,846,734 (Amos et al., hereinafter "Amos"), (iv) claims 21-25 under 35 U.S.C. § 103(a) as being unpatentable over Cabral Jr. et al. as applied to claims 1-4, 7-9, 15-18, 26, 28-29, and 31-34 above, and further in view of U.S. Patent No. 6,498,080 (Chittipeddi et al., hereinafter "Chittipeddi"). Appellants direct the Board's attention to the Response filed on September 3, 2008, which addresses the above rejections.

A. CLAIMS 1-34

Independent claim 1 is directed to a method of forming a nickel silicide layer comprising "reacting the nickel alloy layer with the exposed silicon surface to form a nickel silicide layer having an upper layer and a lower layer, wherein the alloying metal is preferentially segregated in the upper layer", and independent claim 15 is directed to a method of manufacturing a semiconductor device comprising "reacting a portion of the nickel alloy layer with the exposed silicon surface to form a nickel silicide region, ...wherein the nickel silicide region includes an upper layer and a lower layer, and further wherein the alloying metal is preferentially segregated into the upper layer". Appellants note that independent claims 1 and 15 stand rejected under 35 U.S.C. § 102(e).

i. *EXAMINER HAS FAILED TO ESTABLISH INHERENCY*

The rejection states that it is inherent from the disclosure of Cabral that a nickel silicide layer has an upper layer and a lower layer, wherein the alloying metal is preferentially segregated in the upper layer. Action, p. 2.

MPEP § 2112 states "the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). Further, "in relying upon

the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

As such, Applicants respectfully submit that the Examiner does not provide the required objective evidence or cogent technical reasoning to support his conclusion of inherency.

Not only does the Examiner lack the required objective evidence to support his conclusion of inherency, Cabral actually states that the nickel alloy layer is a single layer. As is clear from paragraphs [0045] and [0049] and FIG. 2 of Cabral, following formation of the Ni alloy layer, an annealing process step is performed which converts a portion of the metal alloy layer into a **non-agglomerated** Ni alloy monosilicide 1 atop a Si-containing material 10 shown in FIG. 2.

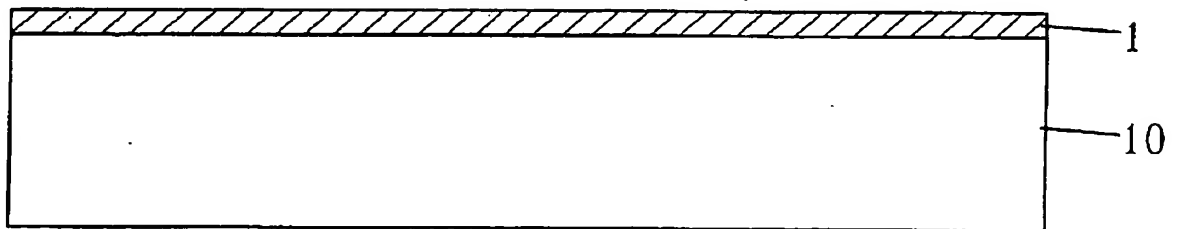


FIG. 2

Therefore, Applicants respectfully submit that Cabral does not teach or suggest reacting the nickel alloy layer with the exposed silicon surface to form a nickel silicide layer or region having an upper layer and a lower layer, wherein the alloying metal is preferentially segregated in the upper layer as

recited in independent claims 1 and 15, but rather teaches a single non-agglomerated Ni alloy monosilicide layer.

II. CONCLUSION

In view of the above remarks, Appellants respectfully request that the Board recommend reconsideration and withdrawal of all art grounds of rejection and allowance of the pending claims, absent a non-final rejection based on more relevant prior art references.

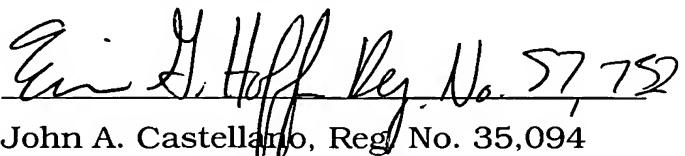
Should there be any outstanding matters that need to be resolved in the present application, the Board is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKY, & PIERCE, P.L.C.

By

  
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